

PATHWAYS

Vol 1

JULY 1979

No. 3

ART AND CRAFT IN THE PRIMARY SCHOOL

by Mrs. Gill Knight

[Mrs. Gill Knight is Primary Adviser in the Schools and Further Education Department of the British Council, London. She has been to India a number of times and is actively involved in a project to re-vitalise Primary Education which is under way at the SIE, Chandigarh.]

Art is a child's natural means of expression. He comes to school as an open area, ready to be plied with new experiences and cajoled into acquiring formal skills. But he brings with him an innate aesthetic sense, however underdeveloped. Given the opportunity, he will introduce his teacher to a whole private world - *his* world - through his drawings and paintings. *He* will give *her* the basic foundations on which to build his education, if she encourages him to express himself freely.

Children learn through experience, through activity. We should try to offer as many different materials as possible to infants in the classroom - crayons, charcoal, paint, glue, fabric,

clay, plaster of paris, wood, waste paper, newspaper, boxes - so that they may become familiar with a wide variety of techniques. Let them discover for themselves the individual properties of the materials they are handling. Help them to acquire a skill in using them, guided by a sympathetic and perceptive teacher.

When they reach junior stage (8-11) we believe that children need time to develop a more intimate sensory awareness, a deeper understanding of a material - its possibilities and its limitations. This time must be made available to them, so that they may follow a piece of work through to a satisfying conclusion. The introduction of new materials must be carefully planned by the tea-

cher and discussion, close observation and recording encouraged for the child to derive the maximum benefit from the experience.

For the junior child, art helps to satisfy the unconscious need a child feels to comment on his environment as well as his need for free creative expression - art as part of another subject area as well as art for its own sake. It is no longer a subject apart. It is an integral part of all basic primary subject areas - language development, mathematics, environmental studies.

Display is equally important. Children need to be encouraged to take pride in their work. If teachers mark and label the best of each individual child's work and display it attractively, that child will feel encouraged to try and produce his best effort all the time. It is most important to display good work from a weak child as well as from a bright child.

In most British primary schools, we hope that the visitor's initial impression will be of the colour, quality, variety, and abundance of the children's work - displayed on walls, in corridors, the hall and above all the classrooms! We try to create a stimulating environment for our children to work in, in the belief that this encourages a high standard of work. Our schools abound in colour, touch and interest areas contributed largely by the children themselves. We believe that the ideas should come from the children and be expanded with the guidance of the teacher - not the other way round!

The following is a list of suggestions for creative work at Primary level. In no way is it exhaustive so please experiment and report back any results you feel may be of interest or help to others.

Using wax crayons

- a) Cover, haphazardly, a piece of card with bright crayons. Make a second covering with black crayon. Cut a picture, using a nail/pin/matchstick into the black crayon to reveal the colours underneath.
- b) Draw a picture in wax crayon. Using soft rag or cotton wool, rub machine oil, mustard or vegetable oil into the back of the picture to make it transparent. Mount onto a glass window.
- c) Draw a picture in wax crayon. Screw up the picture to crack the wax. Unscrew and paint or dye the surface. This is called 'Crayon Batik'.
- d) Allow children to cut notches, with scissors, into the edge of edge of old short crayons. Using the side of the crayon make sweeping patterns onto paper. This can be painted with a wash of diluted paint.
- e) Allow the children to grate up old crayons. Arrange in colour patches. Place clean paper over the top and press with warm iron to melt the wax and mute the colours.
- f) Children to draw a picture in white crayon or using a candle. Then paint over the top with hot or cold colours to make a resist painting.

Using powder colour

- a) Add glue (White glue, maida paste, Fevicol) to powder colour and mix to resemble whipped cream.

(Contd on Page 19)

LEARNING SCIENCE CAN BE FUN !

The teaching of Science in the Primary School is often centred around the text-book. Children learn facts about air, water, insects, flowers, plants, the human body and repeat them at examination time. They read about these things, rarely observe them in the world around them and perhaps see demonstrations conducted by their teachers. There is little opportunity to touch, to feel, to do and to experience natural phenomena. The spirit of enquiry is not aroused and curiosity is often not encouraged.

In our school we have been trying out a new programme which involves children in Primary Classes with Practical work leading to the formation of simple concepts, the habit of observation and careful recording BEFORE taking up the same ideas from their text-books. We are fortunate in having one room set apart as a Junior Science Laboratory where the children are free to cut, paste, hammer, break, heat objects, use water and investigate in a variety of ways. Water supply has been laid on. Heating arrangements are generally improvised using candles or kerosene burners made out of bottles. These can be used safely by the children themselves. Teachers use a kerosene stove, if required, for some demonstrations. Measuring tapes, metre sticks, balances and weights, test-tubes, beakers, measuring jars and other simple routine equipment is available. Much apparatus is improvised from throwaway talcum powder tins, bottles, string, paper and so on.

Of the four weekly periods allotted to Science teaching (Environmental Studies in Cla-

sses I & II) two consecutive periods are spent in the laboratory. The subject teacher of the Primary Classes can always count on the help of a senior school colleague for at least one of these periods. Children are grouped together generally in fours, and often work both inside and outside the laboratory.

The emphasis is on their learning to observe and HONESTLY record exactly what they have seen or done. Class I was playing around with prisms. They had placed their tables in the sun, outside the laboratory, and were experimenting to see the different rainbow colours they could obtain on paper. Asked to record these with their crayons the majority of them showed only four colours. This led to much discussion amongst the Staff members - including those not directly involved with the class. The result was however accepted as it was a factual record of what the children SAW.

Much importance is given to letting the students express themselves freely and we try not to point out too many spelling errors or to improve their little drawings. They take great delight in recording their work in 'Practical' note-books which are marked as part of the year-round internal assessment. Samples of their work are given later on in this article.

Topics chosen for their experiments are generally linked up with some material in their syllabus or text-books. Often however children's queries lead us further afield. Progress is sometimes slow; children take time to perform activities which seem easy to us as adults. We, as teachers, have also learnt patience. We let them try on their own as far as possible. We realise that experiments do not always succeed

and this involves us in trying to discover the reason for the failures. In turn, we then try to help and guide the students to find answers for themselves. (Teachers of Classes I & II link the experiments with the outline Environmental Studies syllabus of the NCERT while Classes III and IV use the NCERT texts in Science)

Tests are both oral and written with marks divided on a 25%, 75% basis. We try to ask simple questions to judge whether scientific facts learnt can be applied. For example : 'If you have guests at home and your mother asks you to dissolve some sugar in water and prepare a sherbet for them, would you use ice-cold water, water from the tap or luke-warm water ?'

Plenty of books are available in the Library for us to pick up ideas - both old and new - by which we can constantly vary our tactics and maintain the interest of the class. The success of this approach became obvious to us when we found weak students taking a great interest in their Science Practicals and many others demanding mirror strips, lenses, prisms and magnets from their parents. In fact, our school book-shop now stocks some of these items.

Working with their own hands the children have proved the old Chinese saying :

I hear and I forget
I see and I remember
I do and I understand.

Miss Raj Sahni
Sardar Patel Vidyalaya,
New Delhi



SAMPLES OF THE CHILDREN'S WORK

क्रिया :

सामान—शीशी, चिरमची, पानी, रुमाल ।

प्रयोग :

पहले हमने शीशी के अन्दर रुमाल डाला फिर शीशी को पानी में डाला तो देखा की शीशी के अन्दर पानी नहीं था और न ही रुमाल गीला था । इससे पता चलता है की शीशी में हवा थी ।

—POOJA SHARMA
(Class -3A)

क्रिया :

सामान—टाच, गेंद, पेन, दिवार ।

पहले हमने एक टाच लि फिर एक बोल । बोल को हमने सामने रख दिया । और टाच खोली तब गेंद कि परछाई दिवार पर आई । फिर हमने पेन और उंगली कि परछाई भी डाली ।

—SUBIYA
(Class -3B)

क्रिया :

सामान—पहले हमने एक शीशी और दो रुमाल लिया ।

फिर हमने दोनों को गीला कर लिया ।

फिर हमने एक को पंखे के नीचे रख लिया दूसरे को दीवार के ऊपर रख दिया ।

फिर देखा तो पंखे वाला पहले सूखा और दीवार वाला बाद में सूखा । पंखे वाला पहले इसलिए सूखा क्योंकि उसको जादा हवा लगी और दीवार वाला देर में सूखा ।

परीणाम—इससे हमको पता चलता है की हवा तेज होती है और गरमी गरम होती है ।

—POOJA SHARMA
(Contd. Page 18)

I Want a Pat on My Back

Dear Teacher,

It is Teachers' Day today, and I wanted to say 'Thank You' for your words of appreciation and the encouragement you gave me last Monday. I am glad you liked my song. I have learnt another new song since then, and would like to sing it for you.

Have you ever noticed that though I do not get good marks in many subjects, I try hard for some - especially those that you teach me? There are many well-qualified, talented and experienced teachers in our school, but you are different. Shall I tell you how? If you will not correct my spelling and my words you Look at me; you Smile at me; you find time (perhaps only a few moments) to Talk and Listen to me; you are Friendly; I feel I can approach you when I need something.

Perhaps many of you do not realise that we students form opinions about our teachers based on these little gestures. Some try to praise us with old-fashioned stale words : "You are a great painter." I know I am not as good as Jaideep but I have tried my best, and I would feel that the teacher is being honest if he said, "It is really a very good attempt. Keep trying. Let us put this up on the display board of the class." Words like 'great' 'good' 'nice' have lost their punch to most of us. We feel that you need a vocabulary that is more 'with-it'. Won't you try ?

What about :

"Well done !; I knew you could do it; A beautiful performance; Keep trying-you are on the right track." Sometimes just a smile is enough.

Many of us also feel happy when you appreciate little acts of honesty, kindness or helpfulness that we try to perform, but do realise that we are only human. Don't generalise and try to show the class that only one or two are models of virtue. Perhaps you do not see that while you appreciate our actions, you do not often know our personalities. Give us a chance to get to know you better and try to know more about us too.

I hope you understand that I have put down all this only because I appreciate YOU - May be some of the things I have said are true of many others in my class, but let me assure you that they too appreciate, respect and love you.

Perhaps when we meet in class next week you will say "Thank you for your letter - it's given me many new ideas."

Till then, Good-bye.

Yours sincerely,
RAVI

★★

DON'T PUT IT OFF

Friends I in this world of hurry
And work and sudden end -
If a thought comes quick of doing
A kindness to a friend -
Do it this very instant !
Don't put it off - don't wait !
What's the use of doing a kindness
If you do it a day too late ?

— Charles Kingsley

SOCIALLY USEFUL PRODUCTIVE WORK

A Reflection

That 20% of the school hours should be devoted to SUPW was the major recommendation of the Ishwarbhai Patel Committee set up to review Secondary Education. In effect, the Committee considered this new component of education as the most significant, since, in the proposed reorganisation of the time table, it was to get more time than any other single subject.

Why is this so? I consider the stress timely and correct, though I have reservations on the modalities of its application. Without calling on Gandhiji as a matter of ceremony, his idea of education, in and through work, has a basic relevance in India. Let me explain what I mean. Our education has tended to become increasingly *alienating*, tending to isolate the individual from the people, the community, their culture and the traditions. Since so much stress has been laid on book-knowledge, students in the rural areas knew more about Delhi and other parts of India than about their own community and neighbourhood, while those in the city schools knew or bothered little about what happened in slums and run-down areas near the school. They enjoyed being islands of excellence in a sea of misery. The consequent uprooting from one's cultural and spiritual heritage is what this SUPW is trying to remedy.

I would attempt a descriptive definition of SUPW. It helps a person to discover himself, especially his hands, his sense, his psycho-motor skills. It helps him to discover and relate to others, and to begin with, his own classmates,

since one of the best ways of bringing people together is to share a common work. If the work is difficult, it becomes even a better joiner. It helps him to discover his neighbourhood, its problems and its needs, and to relate to the people through various types of community service. It helps him to discover himself, his values and attitudes towards work, towards the underprivileged. It helps him to develop a sense of competence by doing things, by producing things, by fashioning or creating things. In the face of the passivity that is such a conspicuous factor of education, a new sense of dynamism, a feeling of self-reliance becomes possible. Thus, while providing opportunity for a fuller and all-round development of the individual, SUPW also provides for meaningful link-up with the community. Education can thus become a *ROOTING* Experience, rooting the person in himself, in his people and culture.

It is fine to say these nice things about SUPW. But *will it work*? I have no sure answers to that, but some suggestions.

Any change from a comfortable mediocrity is difficult. So we can expect a good deal of resistance to SUPW and it could have the same quiet death that Work Experience had in most places. If it has to work, certain conditions must be fulfilled. With the help of the needed orientation, the Principal and Staff (at least enough of them) must be convinced that here is something really worthwhile. As part of that commitment, both the Principal and teachers must be willing not only to organise but also share in the experience of work. This will provide motivation for the students, as no amount of lectures will. From the Board or Department, there must be willingness to be patient, to allow *flexibility* for a period

till the schools have had time to experiment with and develop meaningful and functional approaches to SUPW. They cannot insist on the 20% to begin with. Some of the programmes will find place during school hours, the rest outside school hours, some within the school campus, the rest outside the campus, part of it in the form of productive work the rest in the line of community service. What I am saying is not that the Board or Department should not hold the schools accountable for SUPW, but allow for real freedom to discover as much meaning and functionality as possible. If meaning and functionality are present the students will get involved, more so since it has to be assessed and will appear on the certificate. As far as the students are concerned, the level of seriousness and application must go beyond the hobby or activity items. The discipline of work must be present in SUPW, without making it a boring imposition. A cafeteria approach or allowing a certain number of choices will help, though this has obvious limitations, both because of limitations of facilities and the numbers involved. Finally, our stress on production of goods of marketable standard will undermine the basic educational component.

In such a short note, it is not possible to bring up the many technical aspects of SUPW. I would like to conclude this note by saying that SUPW offers something that is educationally significant, with its strong accents on the person, values and community. At the same time, it offers a great challenge to teachers to use all available resources and ingenuity to translate the idea into action.

Thomas V. Kunnunkal, S. J.

LOCATION

One morning, our neighbour's grandson wanting me to give him biscuits, took me by the hand to the kitchen and pointed out where the tin was placed. This incident set me thinking.

I realised that the concept of location, which one often finds so difficult to get across to children, should be taught keeping in mind their interests. In doing so we will develop in them concepts of co-ordinate geometry and geography without necessarily using formal terms from these subjects. Inviting a newcomer to our house, we often say, "Take Bus No. 407 from your house, get down at the R. K. Puram Police station, walk ten steps forward and then turn left. The house in the corner is ours."

The same principle is applied when we locate seats in a cinema theatre - e.g B-row, Seat No. 11. I extended this idea to drawing a map of the classroom and asking the children to answer questions like "Where is your seat in the classroom? Where is your friend's desk in relation to yours." Going further afield we explored maps of the neighbourhood and our city.

These activities developed in them the skills of mapping, measuring and correlating their knowledge to their environment.

RAJ BALA
Ramjas School,
R. K. Puram

Active Mathematics on A Rainy Day

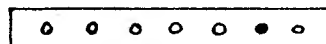
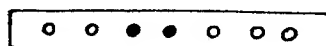
Teachers might like to use the two games given below to stimulate their students. Originally intended to be played on perforated boards with coloured pegs, I am sure teachers could improvise the boards by drawing on stiff paper and using coloured counters, beads or buttons.

Taken from 'PEGBOARDS' an Action Book in Networks-a Mathematics Series published by Hutchinson. Each Action book is based upon a theme and encourages active mathematical exploration.

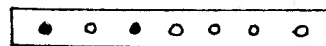
— Gayatri Moorthy

Seven in a Line

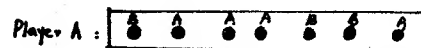
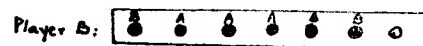
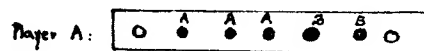
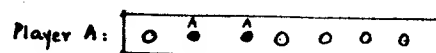
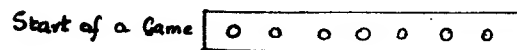
A game for two players, each having his own colour. You can put one/two pegs in the line, but they must be together. Winner puts in the last peg (s) to complete line. Try variations using different numbers of holes



These moves are allowed.



This is not allowed



puts in last peg to win.

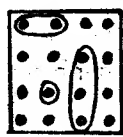
SEVEN IN A LINE

Tac Tix

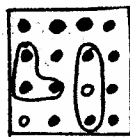
A game for two players. Here sixteen pegs are in place on a 4 by 4 square. Players may remove one or more pegs at a time from a row or column provided they are next to each other. Winner removes the last peg or pegs.

Would you like to be the first player on a 2 by 2 board? What happens if the middle peg is always taken out first?

Change rules - loser removes last peg or pegs

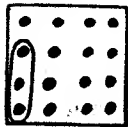


These moves
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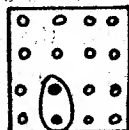
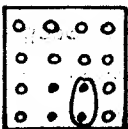
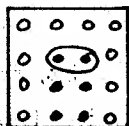
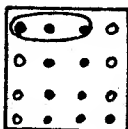
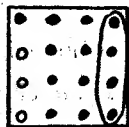


These moves
are NOT
allowed

Player A:



Player B:



TAC
TIX

TO OUR READERS

As we hoped, we received, for this issue, contributions from more readers wanting to share experiences with us — a young gentleman trying to make essay-writing more interesting for his class; a teacher wanting to tell us what she saw and learnt on a trip abroad; another wanting to give us details of material she has used in her English classes; and yet another writing about Mathematics. May we say 'Thank You' to all of you who have helped this issue to grow and ask you to pass the word around that it is precisely this sort of article that PATHWAYS wants from its readers. Please do not feel hesitant - however small, or big it is; if you have tried out something and it has worked let others know about it through our pages.

From this issue onwards, due to a loud protest from teachers in the Middle and Senior School who complained of being ignored by us, we have included something on SUPW, some mathematical games and English Short Stories for them. We invite them to actively participate in our venture.

We would also like to make an announcement. The Educational Planning Group and the Ramjas Education Foundation are shortly opening two Teachers' Centres. These will be located at St. Xavier's School and Ramjas School, Ramakrishnapuram respectively. What is a Teachers' Centre? We hope that many of you will come together at these Centres and help to make them meeting places for professionals; places where you can develop and reproduce new educational material; information centres where you can find out about facilities available to enrich your classes; places where you can organise courses to share expertise and help each other.

Looking forward to hearing from many more of you before the November issue of PATHWAYS.

The Editors.

as the Director of the Institute strongly believes that the child's power of perception is in the process of development and he should be given all freedom to express himself in any form of art that he chooses so that he can be really 'original' in his work.

The classroom has a Book Corner where a child can leaf through picture-books in a relaxed manner. In another corner, on a small table are placed a few crackers (biscuits) and paper napkins. If a child feels like nibbling, he quietly moves to that corner and has his 'grub' without messing up the table.

At 10.30 a.m. the children finish their work and form three groups and are involved in activities like story-telling or reading. After some outdoor play, they disperse at 11.00 a.m.

In the lower and upper elementary classes children do a lot of creative writing, learn chemistry, physics and biology by doing experiments in their classrooms. The learning is based on the natural curiosity of each child and no memorisation of facts and figures is thrust on them. No child is labelled as a 'bright child' or a 'dull child' in a direct or indirect manner. The teacher treats all the children as equal and is quite impartial.

Once a year the school announces an 'Open Day'. On that day prospective parents come to observe the children working with the apparatus, the music class and the gymnastics performed by the children. Parents are welcome to ask questions, to find out about the methods applied and the aims behind them. Generally, I found the parents well-informed and knowledgeable. Being interested in the welfare of their children they read a number of books on the different educational systems and on child psychology.

In such a school each child is allowed to progress at his own pace. No avoidable stress or strain is placed on a child's mind. There are no rewards and punishments. This is in keeping with the Montessorian principle that self-satisfaction is the highest reward any human being can have.

Writing an Essay - the New Way !

by Trevor S. Gordon

[Mr. Trevor S. Gordon works at Mayo College, Ajmer. He attended a workshop on the Environmental Approach to Education organised by the Indian Public Schools Conference at Delhi in December 1978.]

We had a slight drizzle and the smell of wet earth felt good.

I had an English class that morning and told the children to write about the School Garden. Each one sat back to think - "What shall I write?". My next step - a surprise for them - was to take them out into the garden.

There we saw the flowers swaying gently in the breeze - humble violets; lilies, spotless, beautiful and pure; and roses in full bloom showing off their exotic colours. Each little flower that bloomed there, the shapely hedge, the little pond in which goldfish moved so gracefully, was a feast to our eyes. We revelled in Nature that morning.

The children learnt the names of the various flowers, creepers and fish. They could distinguish the scent of each flower. While preparing for their English they were learning to appreciate the beauties of Nature and also improving their vocabulary.

I received a very great number of essays that exhibited the children's love of Nature. They also showed a critical judgement when they gave suggestions to improve the appearance of the garden. Many of their ideas were quite creative. I felt very satisfied with my morning's work.

CREATIVE

BY THE CHILDREN OF

Myran

Myran is in the kitchen. He is climbing up the stove and the ladies are screaming their heads off. He is happy living in the cage.

derek geryan

The hot desert is hot as an oven and an oven is very hot. There is no water in the desert. The End.

Dale Schaafsma

"The Day I Shrank to the Size of an Ant"

I was working in my shop, when I drank this formula and I shrank, and I shrank; and pretty soon I was about the size of an ant.

All my friends looked. They said, "How did she shrink ?" And they drank the formula, turning to the size of an ant too.

Then someone walked in the room and said, "Whatever you do, don't drink that formula !" But they did and they shrank and they shrank ..

Soon there were ants all over.

Later on, other people walked into the room. The ants ran, but some one stepped on them and some of them died.

Then an ant went into the kitchen, so unlucky, that some one washed it down the sink, and this ant died.

Then some other ants went to work on a formula. Finally they got it, and we drank it. Then ..we grew, and grew, and soon we were back to normal. To celebrate, we had a party and we were happy again.

Nicole Mayer

A butterfly is a utterfly.
A butterfly is a terfly.
A butterfly is a erfly.
A butterfly is a rfly.
A butterfly is a fly.
Jaideep Venkataperumal

I like clay. Clay is fun to
play with. I can make things out
of it. Sometimes I make snowmen.

Lisa Hessler

A River Song
It's sunny today.
It's sunny today.
It's Sunday today.
It's Sunday today.
It's bumpy today.
It's bumpy today.

Franci Rard

WRITING

BIRMINGHAM MONTESSORI SCHHOL

"The Kitten that Had No Home"

The kitten named Mittes, who I was
good friends with, had no home.
So I asked her to live with me.
But the kitten said, "Well, I would
like to..." and then added, "if it is
okay with your mom and dad."
Then I asked the kitten, "Would it be
okay with your mom and dad ?"
Then he said, "Didn't you know that I
have no mom and dad ?"
"I'm sorry", I said.
"My mom and dad got run over by a car;
so I guess we can live together".

Carla Salo

"My Dream"

My dream is that I would like people
to be nice, not mean. And let people do
whatever they want.

And I wish, this is my favourite dream,
that everybody in the world would be
one family and not fight.

Everythin would be in our family if
we lived together. And we would put all
the houses together.

That's my dream.

Christine Cavanagh

I like gym. I like my gym teacher.
I like to do headstands. Pretty soon I
will be able to stay for private lessons.
When I go to camp I will be able to go
to gym. I will be able to go on the
uneven bars. The End.

Allison Mittig

"Things that Make Me Afraid"

I get scared of ghosts, witches and "KISS".
I get scared of a lot of things.
I get scared of yellow jackets.
I get scared of monsters and creepy shadows.

Sangeet Prasad

Riddles and Jokes - Original and Remembered

What would happen if a girl swallowed a spoon ?

She couldn't stir.

Billy Trenkle

What do you call a sleeping bull ? A bulldozer.

Robert Gale

What do you call a volcano that erupts ?

One that blows its top.

Joshua Miller

What has four wheels and flies ?

A garbage truck.

Michael Lush

The Awareness Game

"Knowing that your students' education doesn't stop when you leave the School building, you should extend the classroom into the community."

Clifford E. Knapp
Writing in the Instructor, Feb. 1972.

Before plunging into the environment involving the community, it is recommended that children look at various objects around them in a number of ways, making use of all their senses. In this way they will be guided into noticing new elements. Clifford E. Knapp makes use of a "Strategies Checklist" in order to accomplish this aim. By choosing an object of the environment and then dealing with it according to this list, children will soon look at things around them in much fuller, more creative way. The checklist will also stimulate further questioning by the children in any type of environment.

For the purpose of illustrating this concept, we will use the familiar mail box as an example.

STRATEGIES CHECKLIST :

1. **Pretending** : Look at a mailbox.

- Role-play a postman unloading a mass of mail; someone mailing a letter.
- Pretend to be grass growing up around the base
- Pretend you are a bulky parcel falling into the box.

2. **Body Twisting** : (examine environment by moving body position)

- how would it look if you were lying flat ? from the top of a step ladder ?
- how would it look if you were standing on your head or looking through your legs ?

3. **Analysis of Characteristics** : how are the characteristics related to function ?

Height-is it at a convenient level for drivers or for people mailing letters ? will a driver have to get out to mail things ?

Shape and Size of Box and of Opening - what will the box take ? Letters Parcels ? How much/many can it hold ?

Colour - is it uniform ? If not, what do the differences mean ?

Materials - what is it made of ? does it protect the contents from the weather ? Does it get rusted ? How is it protected ?

Hardness ; Sounds of different parts when tapped, Smells, which parts can move ? Why ?

Location : Is it convenient for the public ?

4. **Changing Characteristics** : How can it be changed to serve its function better ?

5. **Compare and Contrast** : What other types of "boxes" can you think of/see that serve a public function ? - telephone booths, fire alarms, dustbins

- compare and/or contrast these with the mailbox. Think of their colour, the materials of which they are made, their functions.

6. **New Uses** : What else can the mailbox be used for besides letters and parcels ?

- as a landmark for giving directions to people.
- returning lost wallets or keys (hotel keys, car keys).

7. **True Story** :

- about the object- where it originated from, how it got there, how long it has been there, why it is there, how it is important to all around it.

8. **Sense Probe** :

Sight- examine the box with a magnifying glass
examine it from a distance

Hearing- as the wind blows stronger will it catch the flap covering the opening ? what does the sound of the flap banging gently on the mailbox resemble ?

Touch- Use various body parts. Is it a warm feeling or generally cool? Examine it on a sunny day. How does this affect the box?

Taste- should we use this sense when dealing with this object? Choose carefully. (Teachers must train the children to avoid indiscriminate tasting).

Smell- Is there any odour? Does it smell the same all over? What do the smells remind you of?

9. Figures of Speech :

What can we say the mailbox is like?
e.g. bread box etc.

10. Assigning Numbers :

- How tall is the mailbox? How big around is it? A string marked at regular intervals may be used for measurement.

Compare its height with your own.

- How much did it cost? How much does it weigh? Where will you find out about this?

11. If I Had :

- imagine how you would perceive the mailbox if you had powers like X-ray eyes, long distance vision, very sensitive smell and touch etc.....
- if you could see inside the box and into all the letters.

12. Jigsaw Puzzle :

- imagine all the parts and pieces which make up the box-take them apart and put them together again.

13. Environmental Factors : (the effect of sun, wind, rain, heat, cold....)

Sunlight- might make the metal extremely hot. What might you be able to do - fry an egg?

Rain- might wear away the paint, cause rusting. How often will it need painting?

Wind- What would happen if there was a storm?

Heat/Cold -

Animals (including man) - may cause damage to the box - how?

14. Geometric Features :

- examine the mailbox carefully. Look for various shapes circles, squares, vertical and horizontal lines?

The Awareness Game could be "played" with various objects of the environment before moving very far away from the school. Some other possibilities are - telephone poles, trees, signs, traffic and street lights, manholes, drains. It is also important to mention that should the weather be unfavourable at the time you wish to make the study there are a host of articles indoors which would serve the purpose just as well. I think it is important to remember that the first choice of an object to study should be the child's. Those mentioned here are merely suggestions.

(Reproduced, with minor variations, from A Community Study for Primary Children - Urban Study Series - of the Vancouver Environment Education Project, University of B. C.)

A California mother took a practical approach to helping her son with third-standard maths: "Here I am with 12 icecream cones and there you are with two friends. How many cones would each of you get?"

"I know you," said John, sighing, "One each."

-from the Reader's Digest, December 1978

SHORT STORIES-A REVIEW BAG

(PATHWAYS invited Mrs. Meera Govil, Education Assistant at the British Council, Delhi to start off this new feature to which we hope other teachers of English at the Secondary School level will also contribute. Meera did a short spell of teaching in Delhi after completing her post-graduate studies. She then spent some years in Iran and in England teaching English and was very involved with a English language Teachers Centre in England.)

The stories have reviewed here have all been used at the Secondary School level. The comments on the stories merely reflect subjective preferences. The books from which they have been selected are available in the bookshops of Delhi. If a number of Secondary level English teachers could pool together material like this which they have used in their classrooms it would provide an useful source of material for selection of texts and reading material for our classes. Help us to fill up this bag.

1. "All the troubles of the world" by Isaac Asimov in **WORLD ZERO MINUS** Aidan and Nancy Chambers, Macmillan Topliners 1971. 9pp.

A giant computer, Muttivac, rules the world and houses information about every adult. It has recently been able to prevent crimes by predicting when and by whom they will be committed. One day it predicts that somebody is planning to kill Muttivac itself

An interesting mixture of science fiction and detective thriller, it is a story with a complicated structure of parallel narratives, which makes it most suitable for use with older pupils. It could be used to open up the subject of a machine-controlled world. The main point of the story is Asimov's fascination, with the idea of machines taking on human emotions.

2. "The Bald Twit Lion", by Spike Milligan in **A BOOK OF MILLIGANIMALS** Puffin Books 1969. 22pp, app. 13 of which are illustrations.

This is an unashamed piece of pure Milligan silliness, describing the search of the Bald Twit Lion for ways to recover his lost mane. The illustrations of Mr Gronk and other characters such as the Daft Penguin's First Cousin are

superb. Children should really have a copy of the story in front of them to appreciate the humour; younger children find this story particularly appealing.

3. "The Big Two Hearted River" by Ernest Hemingway **FROM IN OUR TIME**, published in **THE FIRST FORTYNINE STORIES**, Cape 1944; **A HEMINGWAY SELECTION** ed. D. Pepper, Longman Imprint 1972. 18pp.

A man seeking solitude steps off a Canadian train into the wilderness. The story follows him as he sets up camp, lights a fire and cooks a meal; he then sets out a line to catch salmon in the river of the title. This is a good evocation of living freely and close to nature in solitude.

4. "The Conger Eel and his First Flight", by Liam O'Flaherty in **CONTRASTS ONE**, ed. Mansfield and Newsom, Pergamon Press 1968. 3½pp.

This is an excellent story for classes interested in animals. It is told from the point of view of the animal. The conger eel preys on mackerel and is then trapped himself in the nets of fishermen. The story can call forth many anecdotes about cruelty to animals.

5. "The Country of the Blind" by H.G. Wells, in **SELECTED SHORT STORIES OF H. G. WELLS**, Penguin Books 1970; **PENGUIN BOOK OF ENGLISH SHORT STORIES**, ed. Dolley.

Nunez sets out to discover a lost country where all are rumoured to be blind, believing that "in the country of the blind, the one-eyed man is King." He assumes that his great power of sight will be of immense benefit to such a society, and he will be rewarded with unrivalled power and status. However, these sightless people have adapted to their environment so well with the development of their other faculties, that they neither need nor comprehend the concept of sight. Nunez finds himself at the mercy of a well-orga-

nized and stable system, where he can only be acceptable if he agrees to be blinded. He cannot accept this, and runs away.

The story is long-26 pp. - but can be cut. It is most suitable for 13 yr. olds-15 yr. olds. and can lead to drama and creative work on blindness, the senses etc. Useful discussions about what we may regard as handicaps, and our attitude to handicapped people who may have developed their other senses more fully than us could arise.

6. "Fear", by H. E. Bates in COLLECTED STORIES, H. E. Bates, Jonathan Cape, 6pp.

A boy and his old grandfather are caught in a storm. They converse at cross purposes as they are both afraid. The boy is simply afraid of the storm and he doesn't realize that the old man is afraid of death. (The grandfather thinks of death because they see a falling star, which, according to an old superstition is a sign of death.) The storm ends and the boy becomes happier and does not understand the old man's sudden anger. Good for 13 yr. olds and upwards-work on fear and superstition can be fruitful.

7. "The Fight", by Dylan Thomas in ENGLISH 12/13. ed. Fowler and Dick, Allen and Unwin 1972. 2½pp.

An unevenly constructed story, "The Fight" progresses from recounting a lunch-time fight between two schoolboys to a description of the narrator's afternoon in school-a boring maths lesson and an art lesson spent drawing naughty pictures. It is a mixture of bravado, fantasy and schoolboy boasting with which 11 yr. olds-13 yr. olds can identify, and provides, one or two really good laughs.

8. "The Fun They Had", by Isaac Asimov in CONNOISSEUR'S SCIENCE FICTION, ed. Tom Boardman, Penguin Books 1964. 3½pp.

Two children find an old book describing schools of bygone days; they are amazed at the fact that children actually went to special buildings called schools, and that they had real people, rather than machines to teach them. Margie records her astonishment in her diary for 17 May 2155.

The story is very stimulating to most age groups which have read it. Discussion can centre around modern methods of teaching. What might school be like when their own children have to go to school? What sorts of things will people have to know? Which system would they prefer? Creative work can be based on schools of the future, either factual descriptions or perhaps stories about time travellers who land up in the future - past. Follow - up possibilities are legion.

9. "Shooting An Elephant", by George Orwell in INSIDE THE WHALE AND OTHER ESSAYS", G Orwell, Penguin Books 1969. 10pp.

A description by Orwell of an incident during his time as a colonial policeman in Burma. The build-up of tension and the actual shooting of the elephant are beautifully described. The whole incident is also used as an example of colonialism. The story can be used as a straight description of the killing of a wild animal within general work on Animals. With older kids the ideas on imperialism could be pursued.

MEERA GOVIL

(Contd. from Page 4)

क्रिया :

सामान—Half meter rod, Meter rod.

- दरवाजे की लम्बाई = 2 मी 8 सेमी
कमरे की ऊँचाई = 3 मी 41 सेमी
मैडम की लम्बाई = 1 मी 59 सेमी
मेरी लम्बाई = 1 मी 35 सेमी

—SUBIYA

केंचुआ

- 1 केंचुआ मिट्टी के अन्दर रहता है।
- 2 यह जमीन के अन्दर घूमता है।
- 3 यह जमीन में रासता बनाकर हवा पहुँचाता है।
- 4 यह भूमि को उपजाऊ बनाते हैं।
- 5 यह मट्टी खाता है और पानी में पँदा होता है।
- 6 इसकी खाल पतली है अगर नमक डालो तो गल जाती है केंचुआ मर जाता है।
- 7 वर्षा ऋतु में बहुत दिखाई देते हैं।

—INDRANEEL
(Class—2)

तितली का जीवन-चक्र

पहले तितली पत्ते पर अंडे देती है। थोड़े दिन बाद उसमें से एक लम्बा कीड़ा निकलता है जिसे इल्ली कहते हैं। वह पेड़ों के पत्ते खाती है। थोड़े दिन बाद वह प्यूपा का रूप धारण कर लेता है। थोड़े दिन बाद उसके ऊपर की परत टूट जाती है और उसके अन्दर से पूर्ण तितली निकल आती है।

—ADITYA GUPTA
(Class -4A)

जल-चक्र

एक रील और धातु की एक छोटी पत्ती (3 सेंटिमिटर चौड़ी और 20 सेंटिमिटर लम्बी) लो। पत्ती को चार बराबर भागों में काट लो। प्रत्येक भाग की माप 3×5 सें.मी. होनी चाहिए। आरी की सहायता से रील में चार दरारें बनाओ। अब प्रत्येक दरार में धातु का एक टुकड़ा लगाओ। रील के आरपार धातु की एक लम्बी छड़ डालो। अब जल-चक्र तैयार हो गया। एक मित्र को जल-चक्र पकड़ाओ। उसके ऊपर

पानी उड़ लो। जल-चक्र घूमने लगता है। जल-चक्र के पहिए को घुमाने के लिए उर्जा पानी से मिली। पानी उर्जा का स्रोत है।

—VANDITA
(Class—4B)

ऊर्जा का स्रोत (भाप)

क्रिया :

सामान—स्टोव, प्रेशरकूकर, पानी, जलचक्र।

हमने एक स्टोव लिया फिर उसे जलाया। उसके बाद प्रेशरकूकर लिया। फिर उसमें पानी भरा। उसको जलते हुए स्टोव पर रखा। थोड़ी देर बाद हमने बेट उठाया और देखा कि भाप ऊपर की ओर बहुत तेजी से जा रही थी। हमने अपना बनाया हुआ जलचक्र लिया और निकलती हुई भाप के ऊपर रख दिया। वह वड़ी तेजी से घूमने लगा। हमने उसे थोड़ी ऊपर उठाया तो उसकी गति कम हो गई। इसका मतलब हुआ कि भाप ऊर्जा का स्रोत है।

परिणाम—भाप भी उर्जा का स्रोत है।

—NIDHI
(Class—4B)

वायु में भार होता है।

क्रिया :

सामान—तराजू, ब्लेंडर, मोमबत्ती, ढक्कन, पत्थर, कील।

पहले हमने एक ब्लेंडर लिया फिर हमने उसमें पम्प से हवा भरी। फिर हमने पता लगाया कि ब्लेंडर+हवा का भार 50 ग्राम, एक मोमबत्ती, एक ढक्कन और एक छोटे से पत्थर के बराबर है। फिर हमने एक मुई से ब्लेंडर की सारी हवा निकाल दी। फिर हमने तराजू की दूसरी तरफ में से एक छोटा सा पत्थर निकाल दिया और देखा कि मुई पूरी बीच में आ गई और फिर हमको पता चला कि खाली ब्लेंडर का भार एक मोमबत्ती, एक ढक्कन और 50 ग्राम के बराबर है। हमने हवा के बदले एक पत्थर का छोटा सा टुकड़ा निकाला था। इससे हमें पता चला कि ब्लेंडर में जो हवा थी, वह उस छोटे से पत्थर के टुकड़े के बराबर थी।

परिणाम—वायु का भी भार होता है।

—RITU CHADHA
—M. GNİKA SIKKA
(Class -3A)

(Contd. from Page 2)

Brush this over the paper then cut a pattern through it by using fingers or sticks, etc.

- b) Sprinkle dry powder colour onto a sheet of clean paper. Make a pattern with the fingers. Wet a second sheet of paper. Lay on top and smooth down. Peel this off to reveal a print of the original pattern.
- c) Powder colour can be used to colour plaster of paris.
- d) Use dry powder on wet paper.
- e) Brush glue over a sheet of paper. Sprinkle dry powder colour on top and draw a pattern with fingers.
- f) Cover paper with thick light coloured paint. Draw onto this with chalk while still wet. The colours will blur and act as a fixative.
- g) Use powder paint mixed with glue forming a thick paint to obtain hand prints and footprints. Cut-outs of these can be used for measurement (maths) and also made up into various patterns & shapes.

Using plasticine

- a) Flatten a wedge of plasticine. Press objects into it and use for printing.
- b) Roll into a long snake shape. Arrange and press down onto a piece of tissue/kite paper. Paint the paper around the plasticine. Remove plasticine to reveal plain paper inside the painted areas.
- c) Make a thin layer of plasticine and glue it on to a thick card or inside a

waste box. Press seeds, shells, gravel, etc., into the plasticine to make a collage.

Using Plaster of Paris

- a) Making paper weights. Pour plaster into a polythene bag or a balloon. Model and twist a shape before the plaster sets. When dry remove bag or pop balloon. Paint and varnish.
- b) Make a small mould of wet sand. Press objects in and remove to make an imprint. Pour in plaster carefully. When set remove from sand. Sand will adhere to plaster to give a pleasant texture.
- c) Put plasticine into a box (shoe box ideal). Carve or press objects into it. Pour in the plaster. Allow to set. Remove plasticine. Paint and varnish.
- d) Pour plaster into a box lid. Sprinkle dry paint onto the surface and paint with fingers before the plaster sets. Varnish when dry.

Using string

- a) Arrange string into a pattern on the table. Place paper on top and secure with sellotape. Rub with a dark crayon to make a print.
- b) Paint the string and print with it on piece of card. Experiment with different colours.
- c) Fold a piece of paper in half. Paint a piece of string. Arrange string inside folded paper. Hold flat and pull out string from within paper. Delightful smudge print is the result.

- d) Hammer nails haphazardly into a piece of wood previously painted black. Arrange string around nails to make a design. Try using coloured threads wools.

Using various papers

- a) Torn paper pictures : Make a silhouette of news-sheet on tissue or kite paper. Facial details can be added with crayon or pen. Coloured, metallic papers can be used also. Subjects suitable - market, zoo.
- b) Folded paper can be used to make houses, birds Combine to form pictures. Wind strips of paper around a pencil before mounting - excellent for plumage of birds Mount houses on match boxes for 3D effect.
- c) Using magazines. Draw a simple outline on tissue/kite paper, eg an animal. Use colours of the magazine to paste onto the design. Make a series of patterned pieces using shades of one colour, eg find as many different reds as you can.
- d) Using thick paper oddments. Draw and cut out a simple shape for use as a stencil. Draw around stencil. Remove and re-stencil. Restrict the use of colours.
- e) Using coloured paper oddments. Cut strips and fold into concertina (fan) shapes (3 folds) and stick down on a background of contrasting colour.

Printing

- a) Carrots, potatoes, cabbage or any vegetable can be used for printing.

- b) Patterned plasticine ideal for printing.
- c) String, bottle tops, leaves, cotton reels, buttons, sticks and numerous objects in the classroom and junk box can be used for printing.

Using papier mache

- a) Tear newsprint. Glue over inflated balloon for several layers. Remove balloon when dry. Paint the shell and varnish. Animals and heads are the most popular models.
- b) Vaseline or grease a dish. Cover with layers of glued paper. Remove from dish. Paint and varnish. Alternatively use a bottle or vase.
- c) Model a head or similar shape in plasticine. Cover with layers of glued paper. When dry remove, paint and varnish.

Miscellaneous

- a) Tie and dye oddments of sheeting.
- b) Marbling-use oil paint on water. Skim a piece of paper lightly over the top to get marbled effect.
- c) Dribble or flip paint on to paper. Blow through straws on to the paper to make a design. **NB: do not suck and blow alternately through straws.**
- d) Paint a pattern with glue and sprinkle sand on while wet.
- e) Straw pictures - Brush one side of straw with glue. Mount on black paper. Paint in between the straws. Perhaps the background could be painted first.

- f) Leaf Rubbings using crayons of different colours.
- g) Sprayed pictures. Children to cut out paper shapes. Arrange on white paper. Spray round edges. When dry remove and respray with a different colour if wished.
Try toothbrush dipped in paint and rubbed over wire-mesh to get spray effect.
- h) Charcoal and chalk pictures on tissue or kite paper. (Messy but satisfying).
- i) Paint and crush egg shells. Paste on paper to make a mosaic.
- j) Draw with felt pens on wet paper.
- k) Cut shapes out of card paper. Change basic shape by cutting in different directions and moving out the parts
Use as a jigsaw

OR

Change the shape by cutting and folding back paper to form new shapes.

- l) Cut out a design (stencil) from a card and outline using wax crayons round edges - a house, fish, bird, animal is most satisfactory. Move stencil along and repeat. This could be resisted with diluted paint.

Making a simple dressed doll

Make a cone shape from a semi-circle of card. Screw newspaper up into a ball. Cover with tissue and place into the top of the cone for a head. Roll a thin cylinder of newsprint for the arms and stick onto the cone. Cut small pieces of fabric and paint with a solution of glue

or wallpaper paste (Messy but satisfying!)
Drape the fabric over the arms and around the body making pleats and folds where necessary. When dry the fabric will retain its shape. Hair and features can be added.

Colour touch and interest Corners

These can be easily improvised in a corner of classroom using objects brought in by the children. The theme may be a particular colour, varying textures or objects of general interest. These should be written about, labelled, handled by the children.

Finishing touches

Use clear varnish. Poster colours mixed with glue give a glossy effect. An overlay of glue and water gives a protective seal and neat finish to the children's art-work.

★★

YOUR ATTENTION PLEASE

PATHWAYS will be issued four times a year - in February, April, August and November. Do write and tell us about your new ideas, innovations tried out in your classroom, share your problems and experience - Contributions should reach Mrs. M. Balachandran, Principal, Ramjas School, R. K. Puram Sector IV, New Delhi-110022.

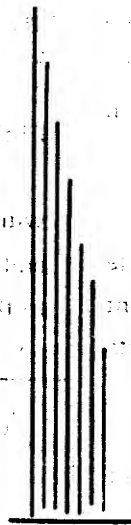
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